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Evaluation of the Everett Clinic Seed COHE: Impact of a Limited HSC Intervention

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As part of its ongoing effort to improve the quality of health care delivered through the workers' compensation system, the Department of Labor and Industries (DLI) sponsored a seed Center of Occupational Health and Education (COHE) intervention at The Everett Clinic (TEC). Intervention activities at TEC started in April 2007 and were supported by a contract from the DLI. These activities included educating TEC health care providers in the use of the activity prescription form (APF) and the prompt submission of the Report of Accident (ROA). All TEC providers could bill for early ROA submission and completed APFs. In addition, the director of the seed COHE intervention, Dianna Chamblin, MD, provided mentoring and training to TEC health care providers to help improve the capability of TEC to deliver effective occupational health care to injured workers.

An additional component of the seed COHE intervention was the use of a health services coordinator (HSC) whose limited function was to initiate telephone calls to employers after a worker was injured to notify them of the worker's injury and to discuss options for encouraging timely return to work if this was appropriate. This differs from HSC activities in other COHES, which include tracking injured worker time loss, follow-up phone calls, provider coaching, coordinating care and related activities. The evaluation conducted by the University of Washington (UW) research team focused primarily on assessing the effect of the limited HSC intervention and addressed the following question: could the limited HSC intervention have an effect on time loss outcomes over

and above the effect of the other COHE intervention activities (ROA submission, use of APF and provider training)? As a secondary analysis, we examined changes over time (before-after comparison) for selected time loss measures and for measures pertaining to time to claim receipt and claim acceptance.

The evaluation of the limited HSC intervention differed in an important respect from prior COHE evaluations in that TEC assigned employers to the intervention using a procedure similar to random assignment. Employers falling between "A" through "K" in the alphabet were assigned to the intervention. Those falling between "L" through "Z" were assigned to the comparison group. In other words, employers at the beginning of the alphabet (A through K) received a phone call from the TEC health services coordinator. All injured workers, regardless of intervention status, were treated in the usual fashion by TEC health care providers. In addition, all of TEC providers received training, and were able to use the incentives related to early submission of the Report of Accident and submission of activity prescription forms. Injured workers treated at TEC whose claim was filed and accepted July 2007 through June 2008 were eligible for inclusion in the evaluation. Outcomes (time loss) of workers were tracked for six months after claim receipt.

In addition to assessing time loss outcomes, based upon DLI administrative data, the evaluation performed other research activities. First, we conducted an informal financial assessment of the limited HSC intervention to compare revenues (billing from HSC phone calls, revenue from submission of ROA and use of APF, and administrative

contract fee provided by the DLI) with HSC expenses (salary and benefits). Second, for all TEC providers we analyzed the change (pre-post) in time loss and in measures related to time to claim receipt and claim acceptance. Third, we gathered qualitative information from employers (key informant interviews) to assess their experience with the TEC HSC intervention, as well as interviews with DLI staff to assess qualitatively the value of the HSC to L&I.

Methods

For the quantitative analysis, we compared time loss outcomes for injured workers in the HSC and non-HSC groups for six months post claim receipt. (We analyzed claims filed from July 2007 to June 2008. Data for the evaluation were obtained in February 2009. By specifying a follow-up period of six months, we assured all claims analyzed would be tracked for the same amount of time.) The outcomes assessed included mean time loss days, incidence of time loss, and whether workers were on time loss at selected intervals (30 days, 90 days and 180 days). The intervention group consisted of 1,823 injured workers, while the comparison group included 1,602 workers (3,425 total cases). Preliminary analysis showed little difference in the two study groups in terms of mix of injuries, worker age or sex. Thus, we conducted univariate statistical analysis involving comparison of means (time loss days) or of proportions (percent of workers on time loss at selected times). Our financial assessment compared the HSC expenses with revenues earned through the intervention (billings for phone calls to employers, timely submission of the ROA, use of the APF and administrative contractual revenues from the DLI).

To gather qualitative information on the TEC intervention, we contacted 14 intervention employers who had sufficient claims and HSC contact to have formed an opinion about the intervention. We also contacted 2 claim managers and an occupational nurse consultant at the DLI Tumwater office and 2 regional DLI staff (1 occupational health nurse and 1 vocational rehabilitation counselor) and queried these individuals regarding their views about and experience with the limited TEC HSC intervention.

Results

Table 1 presents information comparing the characteristics of injured workers for the HSC and comparison groups. As shown, the two groups were very similar.

Table 1. Characteristics of Study Groups (N = 3,425)

Characteristic	HSC Intervention Group (N = 1,823)	Comparison Group (N = 1,602)
Age (mean)	36.2	36.9
% Male	66.0	67.1
Type of injury		
% Back sprain	13.9	14.6
% Carpal tunnel syndrome	1.3	1.6
% Fractures	3.7	4.1
% Other sprains	26.7	25.5
% Other injuries	54.4	54.2

None of the differences in characteristics shown in the table are statistically significant.

Assessment of Outcomes

Table 2 shows the time loss measures for the HSC and comparison groups. There was very little difference between the two groups in any of the time loss measures. Approximately 22% of the claims became time loss claims, generally reflective of the incidence of time loss we have previously reported for COHE evaluations. The majority of workers had time loss episodes of less than 30 days. At 30 days post claim receipt, approximately 9% to 10% of the workers were still on time loss. The average number of days of time loss among all workers during the six-month follow-up period was approximately 15 days.

Table 2. Time Loss Outcomes for Intervention and Comparison Group (N = 3,425)

Time Loss Measure	HSC Group (N = 1,823)	Comparison Group (N = 1,602)	P-Value *
Any time loss	22.3%	22.5%	0.85
On time loss at 30 days	8.8%	9.6%	0.47
On time loss at 90 days	7.5%	7.5%	0.98
On time loss at 180 days	5.4%	6.6%	0.15
Mean time loss days within 180 days after claim receipt (all claims)	14.6	15.2	0.66

* P-Value indicates statistical significance. None of the differences shown in the table were statistically significant.

We repeated the analysis for the time loss outcomes shown in Table 2 for each injury condition. This stratified analysis revealed no differences in time loss outcomes for any injury condition.

Adoption of Occupational Health Best Practices

As noted earlier, one of the intervention activities was to educate TEC providers (all providers) in the use of the APF and submission of the ROA, two important best practices. Table 3 presents information on these best practices and on the frequency of HSC billing for phone calls and record reviews. As the table shows, the great majority of TEC providers used the APF and submitted the ROA within two business days for a high proportion of claims. As expected given that all TEC providers were educated in the use of the APF and submission of the ROA, there was little difference in the frequency of these best practices between the two groups. In contrast, a large difference in HSC billings was observed between the two groups. This difference was anticipated and reflected the design of the intervention.

Table 3. Frequency of Best Practices

Characteristic	HSC Intervention Group (N = 1,813) (%)	Comparison Group (N = 1,589) (%)
Submission of ROA within 2 business days (%)	91.5 *	89.0
Billing for use of APF %	84.9	84.3
HSC billing activities (phone call and record reviews)	36.7 *	7.0

* $p < .05$

Before and After Comparison of Time Loss Measures and of Measures Related to Claim Submission

As an additional analysis, we examined (1) two time loss measures, incidence of time loss claims and mean time loss days (all claims), for all TEC providers before and after the start of the TEC seed intervention; and (2) measures related to time from first medical visit to claim receipt and claim acceptance. This was done to explore whether the combined COHE activities (use of APF, submission of ROA, HSC phone calling, and general provider training) had an effect on time loss, and whether timely submission of the ROA affected time to claim receipt or claim acceptance. The results are shown in Table 4. There was little meaningful change in the two time loss measures in either group. TEC exhibited relatively low time loss days to begin with (approximately 14 to 15 days). Further reduction in time loss from this low baseline level could require, in addition to use of APF and timely submission of ROA, substantial HSC involvement in activities such as care coordination, injured worker tracking and follow up. In contrast, the measures related to time to claim receipt and claim acceptance showed a large change (reduction), likely reflecting the timely submission of the ROA (Table 3).

Table 4. Time Loss and Claim Submission Measures Before and After COHE Intervention

	HSC Intervention Group (N = 1,813)		Comparison Group (N = 1,589)	
Measure	Before	After	Before	After
% on time loss	21.8%	21.2%	22.4%	21.5%
Mean time loss days (all claims)	15.4	14.5	14.4	15.2
Median days from 1st medical visit to claim receipt	6	1	6	1
Median days from 1st medical visit to claim acceptance	14	9	13	9

Qualitative Assessment

The UW research team interviewed by phone 14 employers, 2 DLI regional staff and 3 DLI claim management staff at the DLI Tumwater central office. The general procedure followed by the HSC was to fax the APF to the employer and then follow up with a phone call to discuss the information provided by the form and to determine if the contact person at the employer had any questions. Employer respondents were generally quite positive about their contact with the HSC. Virtually all employers appreciated receiving a call from the HSC. For some employers the call provided useful information about the injured worker's work restrictions and anticipated return to work or alerted them to injuries that they might not have heard about until days later. For other employers the call, though appreciated, was less informative. Some employers indicated the injury was

relatively minor so return to work issues did not arise. Other employers, particularly retro employers who used third-party administrators (TPAs), felt they generally had adequate procedures in place for at least identifying when a claim occurred. Still other employers had well-developed internal procedures that required injured workers to report their injury immediately to their supervisor. Thus while all employers appreciated receiving the call from the HSC, some employer informants indicated the call was of limited value in facilitating the worker's recovery and return to work.

Other persons interviewed included an occupational nurse consultant and vocational rehabilitation counselor on the early return to work team in Everett, along with two claims managers and an occupational nurse consultant in the Tumwater DLI office. The regional DLI staff interviewed felt the HSC had facilitated better communication between injured workers, TEC providers, and employers. They also indicated that having the HSC send notes to the DLI, viewable through the DLI Claim and Account Center (CAC), was useful and saved DLI staff time. DLI staff at the central Tumwater office indicated they had had no direct contact or communication with the HSC but felt the effort to improve communication was useful. In sum, the qualitative information gathered through the key informant interviews generally provided a positive assessment of the HSC and TEC's efforts to improve communication with employers.

Financial Assessment

Our financial assessment was limited to documenting and comparing revenues and (direct) expenditures for the seed COHE intervention. TEC received approximately

$38,500 in billings for HSC activity and an additional $54,600 in enhanced payments for early submission of the ROA. Payments for completion of the APF totaled approximately $379,000. Thus, total revenue generated by the COHE seed intervention was approximately $472,100. In addition, TEC received $100,000 from DLI via its contract to support administrative activities and related expenses. Direct expenses for the HSC (salary and fringe benefits) totaled $71,303. Thus, the revenue generated by the COHE intervention, including contract support, more than outweighed the costs incurred by TEC in operating the pilot. It should be recognized though that the TEC seed COHE incurred other direct and indirect expenses, not accounted for here, related to the training of TEC health care providers and to administrative effort expended to operate the TEC seed COHE.

Conclusion

This report has summarized findings from the UW evaluation of the limited HSC intervention developed at the Everett Clinic as part of the COHE seed intervention. The limited HSC intervention involved telephone contact initiated by the HSC with employers shortly after a worker's injury. The COHE seed intervention also included provider training in the use of the APF and in the submission of the ROA. The primary purpose of the evaluation was to determine if a very modest intervention involving brief phone contact with employers, added to other intervention activities conducted as part of the broader COHE seed intervention, could help limit worker time loss and foster return to work. As a secondary analysis, we explored the change in time loss measures and time to claim receipt and claim acceptance before and after the initiation of the pilot. Our

evaluation found little evidence to indicate the limited HSC intervention, or the combined intervention activities, affected time loss. There was no difference in time loss outcomes between the claims receiving the limited HSC intervention and other claims not receiving it, nor was there any meaningful change in time loss incidence or time loss days after the initiation of the pilot compared to before. However, there was a substantial improvement (decrease) in time from first medical visit to claim receipt and claim acceptance. This change most likely reflects the mentoring and training activities conducted as part of the COHE seed intervention to improve timely submission of the ROAs.

Our failure to find an effect of the limited HSC intervention, or other COHE intervention activities, may be due to the fact that the COHE intervention was designed with a less intensive HSC component than the Renton and Spokane COHEs, which included HSC activity directed at improving care coordination, injured worker tracking and follow up. Further, unlike health care providers at the Renton and Spokane COHES, TEC providers did not communicate with employers; all TEC-employer communication related to injured workers and return to work was initiated by and limited to the HSC.

Though useful, fostering adoption of best practices, with limited HSC activity, may not be enough to engender significant improvement in outcomes. Improving outcomes likely requires more comprehensive system wide coordination of health care services, including injured worker tracking, and more clear-cut engagement of the treating providers in occupational health service delivery. In the absence of a robust HSC capability to

provide care coordination and injured worker tracking, the odds of improving outcomes and reducing time loss through a COHE intervention may be limited.